

Day 92

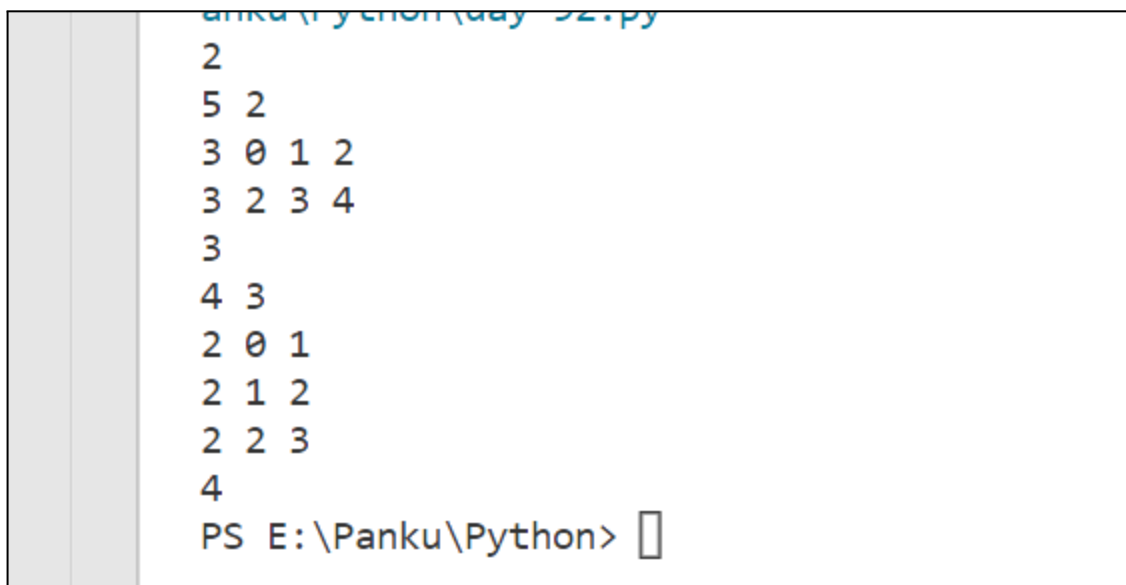
Q. Let X be the set of all integers between 0 and $n-1$. Suppose we have a collection S_1, S_2, \dots, S_m of subsets of X . Say an atom A is a subset of X such that for each S_i we have either A is a subset of S_i or A and S_i do not have any common elements.

Your task is to find a collection A_1, \dots, A_k of atoms such that every item in X is in some A_i and no two A_i, A_j with $i \neq j$ share a common item. Surely such a collection exists as we could create a single set $\{x\}$ for each x in X . A more interesting question is to minimize k , the number of atoms.

main.py

```
for _ in range(int(input())):
    n,m=map(int,input().split())
    atomlist = [""]*n
    for k in range(m):
        s=[]
        s.extend(input().split()[1:])
        for w in range(n):
            if str(w) in s:
                atomlist[w]+="1"
            else:
                atomlist[w]+="0"
    print (len(set(atomlist)))
```

output



```
anku@python\day 92.py
2
5 2
3 0 1 2
3 2 3 4
3
4 3
2 0 1
2 1 2
2 2 3
4
PS E:\Panku\Python>
```